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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

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**PATENT**

In re application of: Katukam et al.

Attorney Docket No.: CISC693

Application No.: Unknown

Examiner: Unknown

Filed: Herewith

Group: Unknown

Title: METHOD AND APPARATUS FOR  
COMPUTING A PATH THROUGH A  
BIDIRECTIONAL LINE SWITCHED RING

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CERTIFICATE OF EXPRESSMAILING

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Signed: \_\_\_\_\_

Jack Limper

**PRELIMINARY AMENDMENT**

Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

Prior to subsequent examination of the above-referenced U.S. Patent Application, please enter the following amendments and remarks.

IN THE SPECIFICATION:

**Please replace the paragraph beginning on page 3 at line 4 with the following:**

With reference to Fig. 1b, the identification of an alternate path between nodes, *i.e.*, node A 108a and node B 108b, will be described. Within BLSR 104, when fiber 112a fails, an alternate path which routes data traffic in a clockwise direction from node A 108a to node B 108b is identified to allow data traffic to be routed to node B 108b from node A 108a. As shown, an alternate counter-clockwise or anti-clockwise path 124 from node A 108a to node B 108b uses fiber

112g, fiber 112e, and fiber 112c. That is, alternate path 124 passes from node A 108a to node C 108c using fiber 112g, passes from node C 108c to node D 108d using fiber 112e, and passes from node D 108d to node B 108b through fiber 112c.

**Please replace the paragraph beginning on page 4 at line 2 with the following:**

Fiber 212 includes channels 220, or time slots, and fiber 216 includes channels 224. Channels 220, 224 include both working channels, *i.e.*, channels through which data is routed under most conditions, and protected channels, *i.e.*, channels through which circuit paths are routed when a selected working channel fails. As will be appreciated by those skilled in the art, a working channel generally has an associated protected channel. By way of example, if fibers 212, 216 are OC-48 links, then a working channel in a fifth time slot associated with fiber 212 is associated with a protected channel in a twenty-ninth time slot associated with a different fiber [212]. In the event that the fifth time slot goes down, the data that was intended to be transferred through the fifth time slot is transferred through the twenty-ninth time slot instead.

**Please replace the paragraph beginning on page 4 at line 21 with the following:**

The use of consistent time slots throughout a circuit path segment in a BLSR substantially ensures that the failure of a link between a source node and a destination node does not prevent data from being successfully transmitted between the source node and the destination node. For instance, referring back to Fig. 1b, if a transmission is intended to be sent from node A 108a to node B 108b on channel "5" across link 112a, and link 112a fails, then the transmission is sent from node A 108a to node B 108 on channel "29" on link 112g, link 112e, and link 112c. As discussed above, working channel "5" is associated with protected channel "29." If inconsistent channels are used in a circuit path segment, *e.g.*, if channel "5" 220a and channel "7" 256b as shown in Fig. 2c are used, to transmit data between two nodes, then if one of the channels fails and node B 108b fails, the destination node is not aware of whether it should expect a transmission over a protected channel "29" or a protected channel "31," as specified by BLSR protocols. Hence, the transmission of the signal may be unacceptably delayed while it is determined which channel the destination node

should expect a transmission from. It should be appreciated that if node B 108b is “alive,” node B 108b may convert channel “29” to channel “5.”

REMARKS

The Specification has been amended to correct a minor typographical errors and to provide clarity.

In view of the above, the Applicants believe that all pending claims are allowable and respectfully request a Notice of Allowance for this application from the Examiner. Should the Examiner believe that a telephone conference would expedite the prosecution of this application, the undersigned can be reached at the telephone number set out below.

If any fees are due in connection with the filing of this amendment, the Commissioner is authorized to charge such fees to Deposit Account 50-1652 (Order No. CISC693).

Respectfully submitted,  
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APPENDIX  
VERSION WITH MARKINGS TO SHOW CHANGES MADE

The paragraph beginning on line 4 of page 3 was replaced with the following:

With reference to Fig. 1b, the identification of an alternate path between nodes, *i.e.*, node A 108a and node B 108b, will be described. Within BLSR 104, when fiber 112a fails, an alternate path which routes data traffic in a clockwise direction from node A 108a to node B 108b is identified to allow data traffic to be routed to node B 108b from node A 108a. As shown, an alternate [clockwise] counter-clockwise or anti-clockwise path 124 from node A 108a to node B 108b uses fiber 112g, fiber 112e, and fiber 112c. That is, alternate path 124 passes from node A 108a to node C 108c using fiber 112g, passes from node C 108c to node D 108d using fiber 112e, and passes from node D 108d to node B 108b through fiber 112c.

The paragraph beginning on line 2 of page 4 was replaced with the following:

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The paragraph beginning on line 21 of page 4 was replaced with the following:

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